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nucleotides 821-834 if SEQ ID 1

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Maria Bonovich Marvich, PhD  
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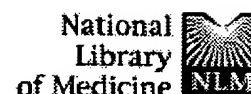
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L Number	Hits	Search Text	DB	Time stamp
1	177	CMV same intron adj A	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 08:51
2	0	(CMV same intron adj A) same splice adj junction	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 08:47
3	697	intron same splice adj junction	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 08:51
4	4	CMV same (intron same splice adj junction)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 08:52
5	9	CMV same splice adj junction	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 08:52
6	5	(CMV same splice adj junction) not (CMV same (intron same splice adj junction))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 08:50
7	26935	(enhanced or increased or enhance or efficient or increase) adj5 expression	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 08:51
8	88	(CMV same intron adj A) and ((enhanced or increased or enhance or efficient or increase) adj5 expression)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 08:51
9	23	CMV adj5 intron adj A same ((enhanced or increased or enhance or efficient or increase) adj5 expression)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 08:56
10	67	CMV adj5 intron adj A and ((enhanced or increased or enhance or efficient or increase) adj5 expression)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 08:52
11	0	hCMV same splice adj junction	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 08:52
12	0	hCMV same (intron same splice adj junction)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 08:52
13	2	cytomegalovirus same (intron same splice adj junction)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 08:52

14	43	cytomegalovirus adj5 intron adj A and ((enhanced or increased or enhance or efficient or increase) adj5 expression)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 08:53
15	95	(cytomegalovirus adj5 intron adj A and ((enhanced or increased or enhance or efficient or increase) adj5 expression)) or (CMV adj5 intron adj A and ((enhanced or increased or enhance or efficient or increase) adj5 expression))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 08:53
16	50	((cytomegalovirus adj5 intron adj A and ((enhanced or increased or enhance or efficient or increase) adj5 expression)) or (CMV adj5 intron adj A and ((enhanced or increased or enhance or efficient or increase) adj5 expression))) and splice	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 08:53
17	2	cytomegalovirus adj5 intron adj A same ((enhanced or increased or enhance or efficient or increase) adj5 expression)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 08:54
18	23	(CMV adj5 intron adj A same ((enhanced or increased or enhance or efficient or increase) adj5 expression)) not (cytomegalovirus adj5 intron adj A same ((enhanced or increased or enhance or efficient or increase) adj5 expression))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 09:00
19	11	"5688688"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 09:00
20	8	"5688688" and intron adj a	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 09:25
21	7	"5688688" and cmv	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 10:07
22	2	"9941369"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 10:20
23	1	"200250264"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 10:43
24	642	cytomegalovirus.ti.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 10:22
25	3	cytomegalovirus.ti. and intron adj a	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 10:24
26	2	A01324	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 10:26

27	2	"09173503"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 10:26
28	0	"9/173503"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 10:26
29	1	"09/173503"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 10:30
30	0	"08976161"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 10:34
31	0	"09886942"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 10:35
32	1	"09/886942"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 10:36
33	0	"09/886942" and intron adj a	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 10:36
34	1	"09/886942" and cmv	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 10:37
35	6	"200200897"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 10:55
36	6	"5886163"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 10:55
37	2	"5886163" and intron	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 10:57
38	15	"5641665"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 10:58
39	10	"5641665" and cmv	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 11:02
40	5	"5641665" and cmv same intron	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 11:05

41	2	"5783383"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 11:05
42	0	"5783383" and intron adj a	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 11:06
43	1	"5783383" and intron	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 11:15
44	581	Selby.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 11:16
45	117	thudium.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 11:16
46	2	(thudium.in. and Selby.in.) and CMV	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 11:16
47	7	(thudium.in. or Selby.in.) and intron	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 11:17



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☐ 1: Nucleic Acids Res. 1991 Jul 25;19(14):3979-86.

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**Chapman BS, Thayer RM, Vincent KA, Haigwood NL.**

Product Management and Regulatory Affairs, Chiron Corporation,  
Emeryville, CA 94608.

A 2.4 kb fragment of hCMV (Towne strain), containing the 5' end of the major immediate-early gene, has been cloned, sequenced, and used to construct a series of mammalian cell expression plasmids. The effects of regulatory regions present on this fragment were assessed using human glycoproteins as reporter molecules. We compared secreted levels of Factor VIII, t-PA, and HIV-1 envelope glycoproteins in cells transfected with plasmids in which intron A of the immediate-early gene was present or absent. Secretion of several glycoproteins was significantly higher when cells were transfected with intron A-containing plasmids. Mutation of three basepairs in the strong nuclear factor 1 (NF1) binding site in intron A led to reduced transient expression levels, but not to the level observed in the absence of intron A. Reduced expression from NF1 mutant plasmids was roughly correlated with reduced binding in vitro of NF1 proteins to a synthetic oligonucleotide containing the mutation. The evidence indicates that sequences in intron A positively regulate expression from the hCMV immediate-early enhancer/promoter in transformed monkey kidney cells.

PMID: 1650459 [PubMed - indexed for MEDLINE]

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Jun 5 2003 10:08:34



ACCESSION NUMBER: 1997:366958 BIOSIS

DOCUMENT NUMBER: PREV199799658891

TITLE: Development of improved vectors for DNA-based immunization and other gene therapy applications.

AUTHOR(S): Norman, Jon A. (1); Hobart, Peter; Manthorpe, Marston; Felgner, Phil; Wheeler, Carl

CORPORATE SOURCE: (1) Vical Inc., 9373 Towne Center Dr. Ste. 100, San Diego, CA 92121 USA

SOURCE: Vaccine, (1997) Vol. 15, No. 8, pp. 801-803.

ISSN: 0264-410X.

DOCUMENT TYPE: Article

LANGUAGE: English

AB Optimizing gene expression and delivery are necessary steps in the production of vectors for DNA-based immunization as well as for other gene therapy applications. A mouse muscle/reporter gene assay system was used to systematically improve a plasmid DNA vector. The optimized vector VR1255 contained: (1) CMV promoter and enhancer; (2) CMV IE Intron A; (3) kanamycin resistance gene; (4) deleted SV40 origin of replication; (5) optimized lux coding region; and (6) a minimal synthetic terminator from the rabbit beta globin gene, mRBG. The vector VR1255 expressed 137 times greater than an earlier prototype RSV-based vector. For plasmid vector delivery into nonmuscle tissues, a recently synthesized cationic lipid, GAP-DLRIE, was found to greatly enhance the uptake and expression of plasmid DNA by 100-fold when instilled into the mouse lung. The time-course of CAT expression with GAP-DLRIE indicated that peak expression occurs 2-5 days after intranasal administration..and expression diminished to about one-third the peak value by day 21. This cationic lipid may be useful for immunization by pulmonary and perhaps other nonmuscle routes.



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FILE 'MEDLINE, CAPLUS, BIOSIS' ENTERED AT 12:09:17 ON 13 JUN 2003

L1 33 S CMV (S) INTRON (A) A  
L2 7 S L1 AND FRAGMENT  
L3 4 DUP REMOVE L2 (3 DUPLICATES REMOVED)

FILE 'STNGUIDE' ENTERED AT 12:10:51 ON 13 JUN 2003

FILE 'MEDLINE, CAPLUS, BIOSIS' ENTERED AT 12:13:34 ON 13 JUN 2003

L4 0 S L1 AND EXPRESSION  
L5 33 S L1 AND EXPRESSION  
L6 15 DUP REMOVE L5 (18 DUPLICATES REMOVED)  
L7 11 S L6 NOT L3  
L8 0 S L5CMV SAME PROMOTER  
L9 0 S CMV SAME PROMOTER  
L10 220 S CMV (S) PROMOTER (S) (FUSION OR FRAGMENT)  
L11 12 S L10 AND INTRON  
L12 8 DUP REMOVE L11 (4 DUPLICATES REMOVED)  
L13 8 S L12 NOT L7  
L14 84 S CMV (S) INTRON (S) EXPRESSION  
L15 54 DUP REMOVE L14 (30 DUPLICATES REMOVED)  
L16 35 S L15 AND PY<=2000  
L17 33 S L16 NOT L12  
L18 29 S L17 NOT L7  
L19 28 S L18 NOT L2

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